

(±)-5-(2-formyl-3-hydroxyphenoxy)-2-methylpentanoic acid;
5-(2-formyl-3-hydroxyphenoxy)-2,2-dimethylpentanoic acid;
methyl 3-(2-formyl-3-hydroxyphenoxy)methylbenzoate;
3-(2-formyl-3-hydroxyphenoxy)methylbenzoic acid;
benzyl 5-(2-formyl-3-hydroxyphenoxy)pentanoate;
5-[4-(2-formyl-3-hydroxyphenoxy)-*N*-butyl]tetrazole;
7-(2-formyl-3-hydroxyphenoxy)heptanoic acid;
5-(2-formyl-3-hydroxy-4-*n*-propoxyphenoxy)pentanoic acid;
5-(4,6-dichloro-2-formyl-3-hydroxyphenoxy)pentanoic acid;
5-(2-formyl-3-hydroxyphenoxy)-*N*-methylsulphonylpentanamide;
ethyl 4-(2-formyl-3-hydroxyphenoxy)methylbenzoate;
5-(4-chloro-2-formyl-3-hydroxyphenoxy)pentanoic acid;
5-(3-acetylamino-2-formyl phenoxy)pentanoic acid;
Aminoguanidine;
4-(2-formyl-3-hydroxyphenoxy)butanoic acid;
6-(2-formyl-3-hydroxyphenoxy)hexanoic acid;
ethyl 4-(3-acetylamino-2-formylphenoxy)methylbenzoate;
4-(3-acetylamino-2-formylphenoxy)methylbenzoic acid;
2-(2-formyl-3-hydroxyphenoxy)methylbenzoic acid;
5-[4-(2-formyl-3-hydroxyphenoxy)methyl]phenyl]tetrazole;
5-(2-formyl-3-hydroxy-4-methoxyphenoxy)pentanoic acid;
3-(2-formyl-3-hydroxyphenoxy)propionitrile;
4-Hydroxyphenylacetaldehyde;
Phenylacetaldehyde;
4-Methoxyphenylacetaldehyde;
1-hydroxy-2-phenylpropane;
3-Phenylpropanaldehyde;
4-Nitrobenzaldehyde;
Methyl 4-formylbenzoate;
4-Chlorobenzaldehyde;
4-Methoxybenzaldehyde;

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4-Methylbenzaldehyde;
8,10-Dioxoundecanoic acid;
4,6-Dioxoheptanoic acid;
Pentanedione;
5-methoxy-1-tetralone;
6-methoxy-1-tetralone;
7-methoxy-1-tetralone;
2-tetralone;
3-hydroxy-1-(4-methoxyphenyl)-3-methyl-2-butanone;
2',4'-dihydroxy-2-(4-methoxyphenyl)acetophenone;
2-hydroxy-1-(4-methoxyphenyl)-pent-2-ene-4-one;
Naringenin 4',5,6-trihydroxyflavonone;
4'-methoxy-2-(4-methoxyphenyl)acetophenone;
6,7-dihydroxycoumarin;
7-methoxy-2-tetralone;
6,7-dimethoxy-2-tetralone;
6-hydroxy-4-methylcoumarin;
Homogentisic acid gamma lactone;
6-hydroxy-1,2-naphthoquinone;
8-methoxy-2-tetralone;

and physiologically acceptable salts thereof, where appropriate.

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18. (Amended) A method of making the combination of components according to claim 24, which comprises combining a nucleotide sequence which encodes for an antigenic peptide associated with a disease state and a Schiff base forming compound which will enhance both humoral and cellular immune responses initiated by the antigenic peptide, wherein said compound is selected from the group consisting of:

4-(2-formyl-3-hydroxyphenoxy)methyl)benzoic acid;
5-(2-formyl-3-hydroxyphenoxy)pentanamide;
N,N-diethyl 5-(2-formyl-3-hydroxyphenoxy)pentanamide;
N-isopropyl 5-(2-formyl-3-hydroxyphenoxy)pentanamide;

ethyl 5-(2-formyl-3-hydroxyphenoxy)pentanoate;
 5-(2-formyl-3-hydroxyphenoxy)pentanonitrile;
 (±)-5-(2-formyl-3-hydroxyphenoxy)-2-methylpentanoic acid;
 5-(2-formyl-3-hydroxyphenoxy)-2,2-dimethylpentanoic acid;
 methyl 3-(2-formyl-3-hydroxyphenoxy)methylbenzoate;
 3-(2-formyl-3-hydroxyphenoxy)methylbenzoic acid;
 benzyl 5-(2-formyl-3-hydroxyphenoxy)pentanoate;
 5-[4-(2-formyl-3-hydroxyphenoxy)-*N*-butyl]tetrazole;
 7-(2-formyl-3-hydroxyphenoxy)heptanoic acid;
 5-(2-formyl-3-hydroxy-4-*n*-propoxyphenoxy)pentanoic acid;
 5-(4,6-dichloro-2-formyl-3-hydroxyphenoxy)pentanoic acid;
 5-(2-formyl-3-hydroxyphenoxy)-*N*-methylsulphonylpentanamide;
 ethyl 4-(2-formyl-3-hydroxyphenoxy)methylbenzoate;
 5-(4-chloro-2-formyl-3-hydroxyphenoxy)pentanoic acid;
 5-(3-acetylamino-2-formyl phenoxy)pentanoic acid;
 Aminoguanidine;
 4-(2-formyl-3-hydroxyphenoxy)butanoic acid;
 6-(2-formyl-3-hydroxyphenoxy)hexanoic acid;
 ethyl 4-(3-acetylamino-2-formylphenoxy)methylbenzoate;
 4-(3-acetylamino-2-formylphenoxy)methylbenzoic acid;
 2-(2-formyl-3-hydroxyphenoxy)methylbenzoic acid;
 5-[4-(2-formyl-3-hydroxyphenoxy)methyl]phenyl]tetrazole;
 5-(2-formyl-3-hydroxy-4-methoxyphenoxy)pentanoic acid;
 3-(2-formyl-3-hydroxyphenoxy)propionitrile;
 4-Hydroxyphenylacetaldehyde;
 Phenylacetaldehyde;
 4-Methoxyphenylacetaldehyde;
 1-hydroxy-2-phenylpropane;
 3-Phenylpropanaldehyde;
 4-Nitrobenzaldehyde;
 Methyl 4-formylbenzoate;

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4-Chlorobenzaldehyde;
4-Methoxybenzaldehyde;
4-Methylbenzaldehyde;
8,10-Dioxoundecanoic acid;
4,6-Dioxoheptanoic acid;
Pentanedione;
5-methoxy-1-tetralone;
6-methoxy-1-tetralone;
7-methoxy-1-tetralone;
2-tetralone;
3-hydroxy-1-(4-methoxyphenyl)-3-methyl-2-butanone;
2',4'-dihydroxy-2-(4-methoxyphenyl)acetophenone;
2-hydroxy-1-(4-methoxyphenyl)-pent-2-ene-4-one;
Naringenin 4',5,6-trihydroxyflavonone;
4'-methoxy-2-(4-methoxyphenyl)acetophenone;
6,7-dihydroxycoumarin;
7-methoxy-2-tetralone;
6,7-dimethoxy-2-tetralone;
6-hydroxy-4-methylcoumarin;
Homogentisic acid gamma lactone;
6-hydroxy-1,2-naphthoquinone;
8-methoxy-2-tetralone;

and physiologically acceptable salts thereof, where appropriate.

24. (Amended) A combination of components for separate, sequential or concomitant administration in a method of vaccinating a mammal against a disease state, comprising administering to said mammal, within an appropriate vector, a nucleotide sequence encoding an antigenic peptide associated with the disease state; additionally administering to said mammal a Schiff base forming compound which enhances both humoral and cellular immune responses initiated by the antigenic peptide, the compound being selected from the group consisting of:

4-(2-formyl-3-hydroxyphenoxy)methyl)benzoic acid;
5-(2-formyl-3-hydroxyphenoxy)pentanamide;
N,N-diethyl 5-(2-formyl-3-hydroxyphenoxy)pentanamide;
N-isopropyl 5-(2-formyl-3-hydroxyphenoxy)pentanamide;
ethyl 5-(2-formyl-3-hydroxyphenoxy)pentanoate;
5-(2-formyl-3-hydroxyphenoxy)pentanonitrile;
(±)-5-(2-formyl-3-hydroxyphenoxy)-2-methylpentanoic acid;
5-(2-formyl-3-hydroxyphenoxy)-2,2-dimethylpentanoic acid;
methyl 3-(2-formyl-3-hydroxyphenoxy)methylbenzoate;
3-(2-formyl-3-hydroxyphenoxy)methylbenzoic acid;
benzyl 5-(2-formyl-3-hydroxyphenoxy)pentanoate;
5-[4-(2-formyl-3-hydroxyphenoxy)-*N*-butyl]tetrazole;
7-(2-formyl-3-hydroxyphenoxy)heptanoic acid;
5-(2-formyl-3-hydroxy-4-*n*-propoxyphenoxy)pentanoic acid;
5-(4,6-dichloro-2-formyl-3-hydroxyphenoxy)pentanoic acid;
5-(2-formyl-3-hydroxyphenoxy)-*N*-methylsulphonylpentanamide;
ethyl 4-(2-formyl-3-hydroxyphenoxy)methyl)benzoate;
5-(4-chloro-2-formyl-3-hydroxyphenoxy)pentanoic acid;
5-(3-acetylamino-2-formyl phenoxy)pentanoic acid;
Aminoguanidine;
4-(2-formyl-3-hydroxyphenoxy)butanoic acid;
6-(2-formyl-3-hydroxyphenoxy)hexanoic acid;
ethyl 4-(3-acetylamino-2-formylphenoxy)methyl)benzoate;
4-(3-acetylamino-2-formylphenoxy)methyl)benzoic acid;
2-(2-formyl-3-hydroxyphenoxy)methyl)benzoic acid;
5-[4-(2-formyl-3-hydroxyphenoxy)methyl)phenyl]tetrazole;
5-(2-formyl-3-hydroxy-4-methoxyphenoxy)pentanoic acid;
3-(2-formyl-3-hydroxyphenoxy)propionitrile;
4-Hydroxyphenylacetaldehyde;
Phenylacetaldehyde;
4-Methoxyphenylacetaldehyde;

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1-hydroxy-2-phenylpropane;
3-Phenylpropanaldehyde;
4-Nitrobenzaldehyde;
Methyl 4-formylbenzoate;
4-Chlorobenzaldehyde;
4-Methoxybenzaldehyde;
4-Methylbenzaldehyde;
8,10-Dioxoundecanoic acid;
4,6-Dioxoheptanoic acid;
Pentanedione;
5-methoxy-1-tetralone;
6-methoxy-1-tetralone;
7-methoxy-1-tetralone;
2-tetralone;
3-hydroxy-1-(4-methoxyphenyl)-3-methyl-2-butanone;
2',4'-dihydroxy-2-(4-methoxyphenyl)acetophenone;
2-hydroxy-1-(4-methoxyphenyl)-pent-2-ene-4-one;
Naringenin 4',5,6-trihydroxyflavonone;
4'-methoxy-2-(4-methoxyphenyl)acetophenone;
6,7-dihydroxycoumarin;
7-methoxy-2-tetralone;
6,7-dimethoxy-2-tetralone;
6-hydroxy-4-methylcoumarin;
Homogentisic acid gamma lactone;
6-hydroxy-1,2-naphthoquinone;
8-methoxy-2-tetralone;

and physiologically acceptable salts thereof, where appropriate;
wherein the combination comprises the nucleotide sequence encoding for an antigenic peptide and the compound which enhances both humoral and cellular immune responses initiated by the antigenic peptide.